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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,458	06/10/2005	Lonnie Goff	US02 0598 US2	3872

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EXAMINER	
MAMO, ELIAS	
ART UNIT	PAPER NUMBER
2184	

NOTIFICATION DATE	DELIVERY MODE
02/24/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/538,458	GOFF, LONNIE	
	Examiner	Art Unit	
	ELIAS MAMO	2184	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Appeal Brief

In view of the Appeal Brief filed on 10/16/2009, PROSECUTION IS HEREBY REOPENED. The Office Action with the new grounds of rejection is set forth below. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 2003/0041205), hereinafter referred to as Wu in view of Koker et al. (US 6,542,945), hereinafter referred to as Koker and Klein (US 5,938,764), hereinafter referred to as Klein.

Referring to **claim 1**, Wu teaches, as claimed, a method of performing configuration or control of a subsystem that includes multiple registers that define multiple configurations of the subsystem (i.e.-a method of configuring a USB compound device that includes an address/endpoint management mechanism which defines multiple configurations according to the types of endpoints stored in the address/endpoint management mechanism, page 2, ¶ 21 and ¶ 23, lines 3-5), comprising: providing together with the subsystem a configuration/control unit having

a controller portion (i.e.-microprocessor 510, page 4, ¶ 47 and page 3, ¶ 43, lines 3-5) and a storage portion storing multiple sets of configuration data (Note: the endpoint configuration mechanism 424 stores configuration data, page 4, ¶ 47, lines 3-7), each of the sets of configuration data including configuration parameters for each of the multiple registers (page 4, ¶ 47, lines 4-5), and each of the sets of configuration data defining a respective one of the multiple configurations (Note: each of the saved configurations data defines one of the plurality of endpoint type stored in the address/endpoint management mechanism, page 2, ¶ 23, lines 3-9). Further, Wu teaches that according to signals received from the USB link layer (page 3, ¶ 41, lines 2-3), the microprocessor 510 defines buffer blocks for each of end point devices and the buffer blocks are used as data register blocks in order to store the configuration data (page 4, ¶ 46).

However, Wu does not explicitly teach the storage portion being a read-only storage portion; and where the configuration/control unit, in response to a single register write that identifies one of the sets of configuration data, encapsulating the multiple registers by performing configuration or control of the subsystem, including storing the configuration

parameters of the identified set in the multiple registers of the subsystem.

On the other hand, Koker discloses a method and apparatus for an instant configuration of a digital device whereby configuration data are loaded to plurality of registers simultaneously during a single clock cycle (col. 3, lines 64 to col. 4, lines 14). Furthermore, Klein discloses method and apparatus for improved storage of configuration information using ROM (col. 2, lines 1-15).

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wu and use a read-only storage portion, as taught by Klein; and the configuration/control unit, in response to a single register write that identifies one of the sets of configuration data, encapsulating the multiple registers by performing configuration or control of the subsystem, including storing the configuration parameters of the identified set in the multiple registers of the subsystem, as taught by Koker. The motivation for doing so would have been to reduce delay time caused by programming/writing each register in separate clock cycle, thereby increasing the system performance.

As to **claim 2**, the modified Wu teaches the method of claim 1, wherein the subsystem is a universal serial bus (USB) block, and the multiple configurations include Control mode, Interrupt mode, Isochronous mode, and Bulk mode (page 1, ¶ 7, lines 5-8), each of the modes encapsulated by a single write to a common register location, and wherein the subsystem is a hardware subsystem (i.e.-item 40, see fig. 4), and the configuration/control unit is a hardware configuration/control unit (see fig. 4).

As to **claim 3**, the modified Wu teaches the method of claim 2, wherein the hardware subsystem and the hardware configuration/control unit are provided together within the same integrated circuit (page 2, ¶ 21 and see fig. 4).

As to **claim 4**, the modified Wu teaches the method of claim 1 wherein the storing of the configuration parameters of the identified set in the multiple registers is implemented using a bus having a width sufficient to simultaneously store the configuration parameters of the identified set (page 7, ¶ 78, lines 1-4).

As to **claim 5**, the modified Wu teaches the method of claim 1, wherein the configuration/control unit is responsive to multiple different values for the single register write for performing different corresponding configuration or control actions with respect to the subsystem, each of the different values identifying one of the sets of configuration data (i.e.-identification information is used in order to define the transmission type, and also to determine one of the multiple functions connected to the compound device, page 4, ¶ 51).

Referring to **claim 6**, Wu teaches, as claimed, a subsystem having self-configuration capabilities (i.e.-item 40, see fig. 4), comprising: a register section including multiple registers that define multiple configurations of the subsystem (Note: the microprocessor 510 defines buffer blocks which are used as data register blocks in order to store multiple configuration data, page 4, ¶ 46); and a configuration/control unit having a controller portion (i.e.-microprocessor 510, page 4, ¶ 47 and page 3, ¶ 43, lines 3-5); and a storage portion (Note: the endpoint configuration mechanism 424 stores configuration data, page 4, ¶ 47, lines 3-7) storing multiple sets of configuration data, each of the sets of configuration data including configuration parameters for each of the multiple registers

(page 4, ¶ 47, lines 4-5), and each of the sets of configuration data defining a respective one of the multiple configurations (Note: each of the saved configurations data defines one of the plurality of endpoint type stored in the address/endpoint management mechanism, page 2, ¶ 23, lines 3-9). Further, Wu teaches that according to signals received from the USB link layer (page 3, ¶ 41, lines 2-3), the microprocessor 510 defines buffer blocks for each of end point devices and the buffer blocks are used as data register blocks in order to store the configuration data (page 4, ¶ 46).

However, Wu does not explicitly teach the storage portion being a read-only storage portion; and where the configuration/control unit, in response to a single register write that identifies one of the sets of configuration data, encapsulating the multiple registers by performing configuration or control of the subsystem, including storing the configuration parameters of the identified set in the multiple registers of the subsystem.

On the other hand, Koker discloses a method and apparatus for an instant configuration of a digital device whereby configuration data are loaded to plurality of registers simultaneously during a single clock cycle (col. 3, lines 64 to col. 4, lines 14). Furthermore, Klein discloses method and

apparatus for improved storage of configuration information using ROM (col. 2, lines 1-15).

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wu and use a read-only storage portion, as taught by Klein; and the configuration/control unit, in response to a single register write that identifies one of the sets of configuration data, encapsulating the multiple registers by performing configuration or control of the subsystem, including storing the configuration parameters of the identified set in the multiple registers of the subsystem, as taught by Koker. The motivation for doing so would have been to reduce delay time caused by programming/writing each register in separate clock cycle, thereby increasing the system performance.

As to **claim 7**, the modified Wu teaches the subsystem of claim 6, wherein the subsystem is a universal serial bus (USB) block, and the multiple configurations include Control mode, Interrupt mode, Isochronous mode, and Bulk mode (page 1, ¶ 7, lines 5-8), each of the modes encapsulated by a single write to a common register location, and wherein subsystem is a hardware subsystem (i.e.-item 40, see fig. 4), and the configuration/control unit is a hardware configuration/control unit (see fig. 4).

As to **claim 8**, the modified Wu teaches the subsystem of claim 7 wherein the hardware subsystem and the hardware configuration/control unit are provided together within the same integrated circuit (page 2, ¶ 21 and see fig. 4).

As to **claim 9**, the modified Wu teaches the subsystem of claim 6, further comprising a bus having a width sufficient to simultaneously store the configuration parameters of the identified set in the multiple registers (page 7, ¶ 78, 1-4).

As to **claim 10**, the modified Wu teaches the subsystem of claim 6, wherein the configuration/control unit is responsive to multiple different values for the single register write for performing different corresponding configuration or control actions with respect to the subsystem, each of the different values identifying one of the sets of configuration data (i.e.-identification information is used in order to define the transmission type, and also to determine one of the multiple functions connected to the compound device, page 4, ¶ 51).

Referring to **claim 11**, Wu teaches, as claimed, for use in a system that includes a processor coupled to a hardware subsystem via a system bus (i.e.-USB logic module 400 coupled with

microprocessor 510, page 4, ¶ 47 and fig. 4), the hardware subsystem including a configuration/control unit (endpoint configuration mechanism 424, see fig. 4) and a plurality of registers that define multiple configurations of the subsystem (i.e.-an address/endpoint management mechanism which defines multiple configurations according to the types of endpoints stored in the address/endpoint management mechanism, page 2, ¶ 21 and ¶ 23, lines 3-5), a method of configuring the subsystem comprising: storing a plurality of sets of configuration data in the configuration/control unit (Note: the endpoint configuration mechanism 424 stores configuration data, page 4, ¶ 47, lines 3-7), each of the sets of configuration data including configuration parameters for each of the plurality of registers (page 4, ¶ 47, lines 4-5), and each of the sets of configuration data defining a respective one of the multiple configurations (Note: each of the saved configurations data defines one of the plurality of endpoint type stored in the address/endpoint management mechanism, page 2, ¶ 23, lines 3-9). Further, Wu teaches that according to signals received from the USB link layer (page 3, ¶ 41, lines 2-3), the microprocessor 510 defines buffer blocks for each of end point devices and the buffer blocks are used as data register blocks in order to store the configuration data (page 4, ¶ 46).

However, Wu does not explicitly teach the storage portion being a read-only storage portion; and where the configuration/control unit, in response to a single register write that identifies one of the sets of configuration data, encapsulating the multiple registers by performing configuration or control of the subsystem, including storing the configuration parameters of the identified set in the multiple registers of the subsystem.

On the other hand, Koker discloses a method and apparatus for an instant configuration of a digital device whereby configuration data are loaded to plurality of registers simultaneously during a single clock cycle (col. 3, lines 64 to col. 4, lines 14). Furthermore, Klein discloses method and apparatus for improved storage of configuration information using ROM (col. 2, lines 1-15).

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wu and use a read-only storage portion, as taught by Klein; and the configuration/control unit, in response to a single register write that identifies one of the sets of configuration data, encapsulating the multiple registers by performing configuration or control of the subsystem, including storing the configuration parameters of the identified set in

the multiple registers of the subsystem, as taught by Koker. The motivation for doing so would have been to reduce delay time caused by programming/writing each register in separate clock cycle, thereby increasing the system performance.

As to **claim 12**, the modified Wu teaches the method of claim 11, wherein the configuration/control unit is a state machine (Note: the USB logic module 400 is comprised of generic endpoint state machine 421, see fig. 4).

As to **claim 13**, the modified Wu teaches the method of claim 11, wherein the subsystem is a USB block comprising a plurality of ports that can operate in different modes (page 2, ¶ 19) responsive to which of the sets of configuration data is written to the plurality of registers (page 3, ¶ 42, lines 6-8).

As to **claim 14**, the modified Wu teaches the method of claim 11, wherein the storing of the configuration parameters of the identified set in the plurality of registers is implemented using a bus having a width sufficient to simultaneously store the configuration parameters of the identified set (page 7, ¶ 78, lines 1-4).

As to **claim 15**, the modified Wu teaches the method of claim 11, wherein the configuration/control unit is responsive to multiple different values for the single register write for performing different corresponding configuration or control actions with respect to the subsystem, each of the different values identifying one of the sets of configuration data (i.e.- identification information is used in order to define the transmission type, and also to determine one of the multiple functions connected to the compound device, page 4, ¶ 51).

Response to Arguments

Applicant's arguments filed on 10/16/2009 have been fully considered but are moot in view of the new ground(s) of rejection.

Examiner's note:

Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the Applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the Applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passages as taught by the prior art or disclosed by the Examiner.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIAS MAMO whose telephone number is (571) 270-1726 and fax number (571) 270-2726. The examiner can normally be reached on Monday thru Thursday from 9 AM to 5 PM EST. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Henry Tsai, can be reached on (571) 272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/E. M./
Examiner, Art Unit 2184

/Henry W.H. Tsai/
Supervisory Patent Examiner, Art Unit 2184